YAMAHA

The high performance unmanned helicopter designed for a wide range of industrial uses

RMAX

Type II G / Type II

Yamaha unmanned helicopters are designed for a wide range of industrial and research applications.

Advanced technology, proven high performance and high tech safety features mean efficient, effective problem solving for many industries.

RMAX

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YAMAHA
RMAX

Agricultural uses include spraying, seeding, remote sensing, precision agriculture and variable rate dispersal.

Need to access remote or dangerous areas? RMAX is the solution. Your eye in the sky offers cost effective, accurate and efficient spraying with zero soil compaction. Spend 100% of your time over the target and there's no pilot to worry about.

Optimum Dispersal

The RMAX Type II G incorporates a warning system to alert the pilot if flying speed during spraying exceed's 20km per hour. This takes the guess work out of precision spraying and seeding.

- RMAX Type II G monitors ground speed and adjusts the rate of spraying or seeding.
- Equipped with the Yamaha Altitude Control System (YACS), Which monitors and maintains height, direction and speed.

Ensuring Safety

The frame of the YACS warning light will flash for 15 seconds after starting the engine, during which the engine will come to a stop if the throttle stick is manipulated excessively.

- 15-second safety mechanism working immediately after the engine is started.

Equipped with a high-performance Global Positioning System (GPS) combined with the Yamaha Attitude Control System (YACS) making operation simple.

The RMAX Type II G is equipped with a YACS-G mechanism incorporating the YACS, a unique control support system that performs the computer control of all the rudders to realize excellent flight stability, combined with a high-performance GPS that detects the speed of the helicopter in the back and forth, left and right, and up and down directions.

The YACS-G allows for easy and precise speed control and hovering control of the helicopter, thus making it possible to perform highly efficient and effective objective-based dispersal and significantly alleviating the operator's stress.

*The YACS-G is incorporated by the RMAX Type II G only.

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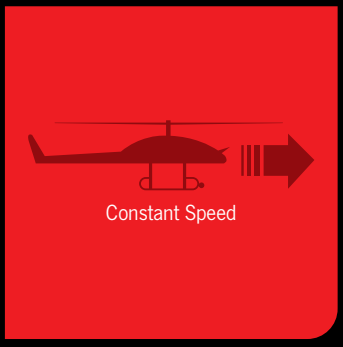
Incorporating easy-to-use functions that ensure highly efficient dispersal

High-performance GPS
The high performance GPS increases helicopter stability, speed, altitude and directional control, making on-target dispersal simple, safe and accurate.

Ease of hovering
RMAX will automatically slow down when the throttle stick is returned to the neutral position.

The helicopter flying at a speed of approximately 15 km per hour will go into hovering in the air within a flying distance of approximately 10m.

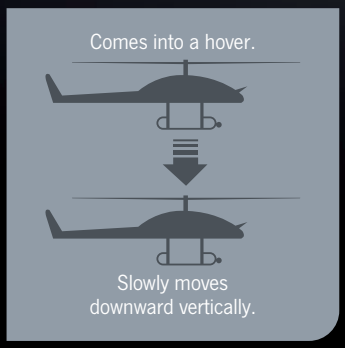
Braking and speed control.
The helicopter will slow down by just returning the throttle stick to the neutral position, thus ensuring ease of bringing the helicopter into a hover[2].



The helicopter will keep a constant speed if the position of the throttle stick is kept steady[3].

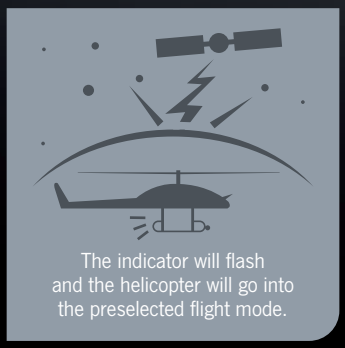
2 These descriptions and illustrations represent the concept of the features and do not guarantee the performance characteristics of the helicopter. The actual performance of the helicopter varies with the GPS reception conditions, wind and weather conditions, and the state of the aircraft. 3 This control is possible only when the helicopter is in SG mode.

RMAX is equipped with a range of versatile safety functions.



In case of radio interference
The helicopter will decelerate its flying speed automatically and slowly move downward vertically if radio interference is encountered while the helicopter is in flight.

This operation is possible, provided the helicopter is in a GPS controllable state.



In case of GPS signal interruption
The GPS control of the helicopter will be cancelled, when the indicator flashes and the helicopter goes into the preselected flight mode.

SG mode will cancel the control after automatically decelerating in the back and forth direction only.

The RMAX control panel uses a built-in computer that constantly monitors the helicopter and enables the helicopter to perform a self-check to prevent trouble.

Self-monitor Function
The self-monitor function enables the helicopter to make a self-check on each part of the helicopter before flying and notify the operator of defects, if any, on the self-monitor indicators.

YACS Warning Light/GPS Indicator Light
The YACS warning light and GPS indicator light alert the operator to flight trouble. These lights are easy to see, and make it possible to confirm at a glance even from a distance.

Incorporating easy-to-use practical functions and equipment that enhance work efficiency.

Versatile Functions and Equipment.

Liquid Sprayer

The liquid sprayer can be mounted, dismounted and replaced with ease.

- Splash-suppressed Liquid Sprayer.
- Cassette style tanks for clean, quick operation. Tanks are see through for instant visual inspection. Fast-change mechanism for quick turn around.

Boom/Nozzle Optimisation

Optimisation of boom position
The right-hand side for backward and the left-hand side for forward

Nozzle position and height changes

Adoption of flat nozzle

Suppresses the dispersion of chemicals that may be caught by the main rotor and tail rotor. The standard dispersal width is 7.5m (with left and right nozzles used). The dispersal width can be selected according to the application (using optional parts).

A function to switch the centre nozzle according to the dispersal condition

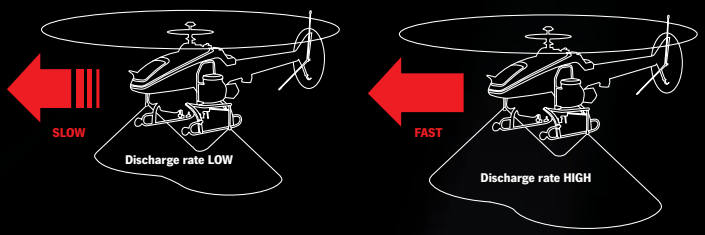
Adoption of centre nozzle

Using an air barrier resulting from a downwash phenomenon, thus suppressing the dispersion of liquid more effectively than using the left and right nozzles. The centre nozzle has a dispersal width of 3.75 m.

Incorporates a function to make dispersal quantity adjustments according to the flying speed.

The function automatically adjusts the discharge rate of chemical liquid according to the flying speed of the helicopter. The function makes the discharge rate per unit area appropriate[8/9].

[8] The function is incorporated by the RMAX Type II G only.
[9] The function is available only when the discharge rate is 8 per ha, the left and right nozzles are selected, and the helicopter is receiving GPS signals.



Granular Sprayer

- Makes it possible to spray granules, coated grains, and fertilizers.
- The discharge rate is easily adjusted with the metering lever.
- Supports herbicide dispersal with the impeller speed changed.
- The cassette-type hopper that can be mounted or dismounted with ease.

Control Panel

Decompression lever

The control panel incorporates an easy-to-use decompression lever.

Self-starter Switch

The engine starts by just pressing the self-starter switch on the control panel. The helicopter is equipped with a generator thus making it possible to charge the starter battery automatically.

Cleaning Switch

Cleaning the interior of the sprayer automatically. Pressing the cleaning switch on the control panel allows ease of cleaning the liquid sprayer and discharge the residual chemical in the granular sprayer.

Moving Wheels/Handling Grips

Easy loading and unloading on site by two people.

Wheels on the landing gear enable the RMAX to be moved by a single operator. With a total weight of 100kg the RMAX can be loaded by two people.

Main Rotor

The main rotor will come to a stop within approximately 20 seconds with the rotor brake used after the engine is stopped.

Being able to quickly stop the rotors increases safety and allows for fast refilling.

YAMAHA

www.yamaha-motor/rmax.com.au

Skytech Academy trains people to become excellent operators.

Professional training system.
Skytech Academy has a training system that allows beginners to receive skill training right from the day of enrolment. Its training curriculum, tailored to the skill of each trainee, will steadily improve the control and dispersal techniques of the trainee.

Versatile training materials.
Skytech Academy uses versatile teaching materials, such as training simulators and master-servant proportional transmitters for radio control, thus providing efficient training in a short period.

Guidance given by professional instructors.
A professional instructor gives skill training to a group of three to four trainees. The training is given according to the operation skill of each trainee.

Curriculum
The Certificate of Operator Skill will be issued to each trainee on completion of the following training course.

Classroom Lesson	Skill Training	Proficiency Test	Safety Training
Trainee's receive instruction in all areas of UAV operation.	The trainee learns on simulators and real UAV helicopters.	The trainee will receive a dispersal flight test with an unmanned helicopter.	The trainee will receive ongoing safety training and updates.

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RMAX Type II G / Type II

Technical Details

OPTIONAL SIX FREQUENCY CONTROLLER

The optional six frequency controller allows up to six helicopters to be flown at once. Using the six frequencies in combination to control a number of helicopters during spraying operation with no crosstalk interference.

BUNDLED ITEMS

- Sprayer transmitter
- Main rotor case
- Toolkit
- Radio signal monitor
- Operation manual
- Flight inspection log

Specifications

PERFORMANCE

LOAD CAPACITY*	28 kg
PRACTICAL RANGE	(Visual range) Up to 400 m
CONTROL SYSTEM	YACS-G (RMAX Type II G) YACS (RMAX Type II)

DIMENSIONS

MAIN ROTOR DIAMETER	3,130 mm
TAIL ROTOR DIAMETER	535 mm
OVERALL LENGTH	2,750 mm (Overall length with rotor 3,630 mm)
OVERALL WIDTH	720 mm
OVERALL HEIGHT	1,080 mm

ENGINE

TYPE	2-stroke, horizontally opposed 2-cylinder
CYLINDER DISPLACEMENT	246 cc
MAXIMUM OUTPUT	15.4 kW
STARTING SYSTEM	Electric starter
FUEL	Regular unleaded mixed with 2-stroke engine oil

LIQUID SPRAYER

CASSETTE TANK CAPACITY	8 litres x 2 tanks
DISCHARGE METHOD	Double-acting piston with flat nozzle
DISCHARGE RATE	1.3 to 2.0 /minute (speed-linking method)
NOZZLE PITCH	1340 mm
SPRAYER WEIGHT	7.4 kg

GRANULAR SPRAYER

HOPPER CAPACITY	13 litres x 2 tanks
DISCHARGE METHOD	Impeller (300 mm dia.)
DISCHARGE RATE	2.5 kg/minute (when spraying 1 kg/10 a)
IMPELLER ROTATIONAL SPEED	800 rpm
SPRAYER WEIGHT	7.0 kg

*The performance may vary depending on environmental conditions, such as the temperature, humidity, and altitude.

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RMAX delivers advanced technology, proven high performance and high tech safety features for efficient, effective problem solving across many industries. For more information please visit: www.yamaha-motor/rmax.com.au

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